

C<sub>3</sub>F<sub>8</sub> and C<sub>2</sub>F<sub>6</sub> to the process gas as the gas forming the at least one passivating material.

36. (Amended) The method of claim 34, further comprising the step of adding at least one gas selected from the group consisting of O<sub>2</sub>, N<sub>2</sub>O, NO, NO<sub>x</sub>, CO<sub>2</sub>, Ar, NO<sub>2</sub> and N<sub>2</sub> to the process gas.

## **REMARKS**

### **I. Introduction**

Claims 19 to 36 are pending in the present application. In view of the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Applicants thank the Examiner for acknowledging the claim for foreign priority and for indicating that all copies of the certified copies of priority documents have been received.

Applicants thank the Examiner for considering the previously filed Information Disclosure Statement, PTO-1449 paper and cited references.

### **II. Objection to the Specification**

The Specification was objected to as allegedly failing to provide proper antecedent basis for the claimed subject matter. The Office Action states that the term "fluoroalcane" is not described in the Specification. Initially, it is noted that "fluoroalcane" is a misspelling of the term "fluoroalkane." Claim 22 has been amended herein to correct the spelling error, and the Specification has been amended herein to state that "[t]he additive may also include a fluoroalkane." No new matter has been added. In view of the foregoing, it is respectfully submitted that the Specification provides sufficient antecedent basis for "fluoroalkane." Withdrawal of this objection is therefore respectfully requested.

### **III. Rejection of Claims 19, 24, 29 and 34 Under 35 U.S.C. § 112**

Claims 19, 24, 29 and 34 were rejected under 35 U.S.C. § 112, second paragraph on the basis that "prior to/or during the anisotropic plasma etching" lacks sufficient antecedent basis. Applicants respectfully traverse the contention that there is a lack of antecedent basis for "the anisotropic plasma etching" recited in

claims 19, 24, 29 and 34. In this regard, the Examiner will note that each of claims 19, 24, 29 and 34 recite at line 1 "[a] method of anisotropic plasma etching." It is therefore respectfully submitted that each of claims 19, 24, 29 and 34 provides sufficient antecedent basis for "the anisotropic plasma etching." Withdrawal of this rejection is therefore respectfully requested.

**IV. Rejection of Claims 19 to 36 Under 35 U.S.C. § 112, Second Paragraph**

Claims 19 to 36 were rejected under 35 U.S.C. § 112, second paragraph on the basis that there is no antecedent basis for the "the process gas." However, each of claims 19, 24, 29 and 34 recite at line 2 "a process gas," which provides sufficient antecedent basis for "the process gas." Withdrawal of this rejection is respectfully requested.

Claims 19 to 36 were rejected under 35 U.S.C. 112, second paragraph as indefinite for allegedly failing to particularly point out and distinctly claim the subject matter of the invention.

The Office Action alleges that in claims 19 to 21, 25 to 27, 30 to 32 and 34 to 36, the use of "selected from the group of" is considered vague and indefinite. While Applicants respectfully disagree with the merits of this rejection, to facilitate matters, the claims have been amended herein without prejudice to change "selected from the group of" to --selected from the group consisting of-- as suggested.

The Office Action alleges that the phrase "at least from time to time" is vague and indefinite. While Applicants respectfully disagree with the merits of this rejection, to facilitate matters, the claims have been amended herein without prejudice to delete the phrase "at least from time to time."

The Office Action alleges that the term "fluoroalkane" is vague and indefinite. As indicated above, claim 22 has been amended herein without prejudice to change "fluoroalkane" to --fluoroalkane--.

The Office Action alleges that the phrase "teflon-type material" is vague and indefinite. While Applicants respectfully disagree with the merits of this rejection, the claims have been amended herein without prejudice to change "teflon-type material" to --fluoropolymer material--.

The Office Action alleges that the term "NOx" is vague and indefinite and that "it is unclear what 'x' was intended to convey." Office Action at p. 3.

However, "NOx" is a common and generic term for a nitrogen oxide. It is therefore respectfully submitted that the term "NOx" is neither vague nor indefinite.

The Office Action contends that the phrase "light and easily" is a relative term with no basis for comparison. While Applicants respectfully disagree with the merits of this rejection, to facilitate matters, the claims have been amended herein without prejudice to delete such phrase.

In view of the foregoing, it is respectfully submitted that all of the pending claims fully comply with the requirements of 35 U.S.C. § 112, and withdrawal of these rejections is respectfully requested.

**V. Rejection of Claims 19 to 22 and 24 to 27 Under 35 U.S.C. § 103(a)**

Claims 19 to 22 and 24 to 27 were rejected under 35 U.S.C. § 103(a) as unpatentable over Journal of the Electrochemical Society, Dec. 1982, USA Bd 129, Nr. 12, Pages 2755 to 2760 ("Flamm et al."). Applicants respectfully submit that Flamm et al. do not render obvious claims 19 to 22 and 24 to 27 for the following reasons.

Claim 19 relates to a method of anisotropic plasma etching a laterally defined structure in a silicon substrate using a process gas. Claim 19, as amended herein, recites that the method includes precipitating at least one passivating material at least on a side wall of the laterally defined structure at least one of prior to the anisotropic plasma etching and during the anisotropic plasma etching, and adding a fluorine-delivering etching gas at least from time to time to the process gas, the fluorine-delivering etching gas including at least a compound selected from the group consisting of  $\text{ClF}_3$ ,  $\text{BrF}_3$  and  $\text{IF}_5$ .

Claim 24 relates to a method of anisotropic plasma etching a laterally defined structure in a silicon substrate using a process gas. Claim 24, as amended herein, recites that the method includes precipitating at least one passivating material at least on a side wall of the laterally defined structure at least one of prior to the anisotropic plasma etching and during the anisotropic plasma etching, and adding  $\text{NF}_3$  to the process gas as an additive for consuming at least one of the at least one passivating material,  $\text{SiO}_2$  and a fluoropolymer material.

The Office Action alleges at page 4 that:

Flamm teaches a method of anisotropic plasma etching a laterally defined structure in as [sic] silicon substrate using a process gas. Flamm teaches adding a fluorine-delivering

etching gas to the process gas. The fluorine-delivering etching gas may include  $\text{NF}_3$ ,  $\text{ClF}_3$  or  $\text{BrF}_3$  . . . . Flamm also teaches that plasma in a wide range of gas mixtures including  $\text{CF}_4$ ,  $\text{CF}_4/\text{O}_2$  and  $\text{C}_2\text{F}_6/\text{O}_2$  . . . can be used to supply fluorine atoms for selective isotropic silicon etching. The said gas mixtures can deposit polymer (so-called precipitating at least one passivating material in the instant claims), see page 2755, col. 1 and 2) [sic]. Because it is known that gas comprising  $\text{CF}_4$  or  $\text{C}_2\text{F}_6$  can supply fluorine atoms for selective isotropic silicon etching and deposit polymer and because it is disclosed by Flamm, hence, it would have been obvious to one with ordinary skill in the art to incorporate gas mixtures including  $\text{CF}_4/\text{O}_2$  and  $\text{C}_2\text{F}_6/\text{O}_2$  in the method of etching silicon using the fluorine-delivering etching gas including  $\text{NF}_3$ ,  $\text{ClF}_3$  or  $\text{BrF}_3$  . . . and use them in any combinations thereof in order to provide their art recognized advantages and produce an expected result since they have been taught to be useful for the same purpose (etching silicon substrate).

Applicants respectfully submit that Flamm et al. do not disclose, or even suggest, all of the limitations of claims 19 and 24. Claims 19 and 24 recite precipitating at least one passivating material at least on a side wall of the laterally defined structure. Flamm et al. do not disclose, or even suggest, a passivating material. The Office Action contends that the "polymer" described by Flamm et al. corresponds to the passivating material recited in claims 19 and 24. Flamm et al., however, do not disclose, or even suggest, that the "polymer" would have any passivating properties at all. For this reason alone, Flamm et al. do not disclose, or even suggest, all of the limitations of claims 19 and 24.

Moreover, Flamm et al. teach away from having the "polymer" used as a passivating material. Flamm et al. states that "[f]or example,  $\text{CF}_4$  plasmas can deposit polymer if the are 'loaded' with a large area of silicon, while pure  $\text{SF}_6$  plasmas form polymeric sulfur-containing films under heavily loaded conditions. Similarly, the presence of  $\text{CF}_x$  radicals in some fluorocarbon-based etchants is detrimental because they attack  $\text{SiO}_2$ ." Flamm et al. at page 2755. As described by Flamm et al., the deposit of a polymer is detrimental as evidenced by the wording "similarly". It is also inferred from Flamm et al. that the polymers may attack the  $\text{SiO}_2$ . See, Flamm et al. at page 2755 to page 2756.

Applicants further submit that Flamm et al. do not disclose, or even suggest, that the at least one passivating material is precipitated on at least one side wall. Flamm et al. do not disclose, or even suggest, placement of the polymer (and

Applicants do not admit that the polymer corresponds to the passivating material) on at least the side of a laterally defined structure. Flamm et al., as seen in Figure 1, describe removing polysilicon material but do not disclose, or even suggest, precipitating that material on at least one side wall.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). Flamm et al. do not disclose, or even suggest, the step of precipitating passivating material at least on a side wall of a laterally defined structure and as a consequence. It is therefore respectfully submitted that Flamm et al. do not render obvious claims 19 and 24.

It is respectfully submitted that the cases of In re Fine, supra, and In re Jones, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992), make plain that the Office Action's generalized assertions that it would have been obvious to modify or combine the reference do not properly support a § 103 rejection. It is respectfully submitted that those cases make plain that the Office Action reflects a subjective "obvious to try" standard, and therefore does not reflect the proper evidence to support an obviousness rejection based on the reference relied upon. In particular, the Court in the case of In re Fine stated that:

The PTO has the burden under section 103 to establish a *prima facie* case of obviousness. It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. This it has not done. . . .

**Instead, the Examiner relies on hindsight in reaching his obviousness determination. . . . One cannot use hindsight reconstruction to pick and choose among isolated**

**disclosures in the prior art to deprecate the claimed invention.**

In re Fine, 5 U.S.P.Q.2d at 1598 to 1600 (citations omitted; italics in original; emphasis added). Likewise, the Court in the case of In re Jones stated that:

Before the PTO may combine the disclosures of two or more prior art references in order to establish *prima facie* obviousness, there must be some suggestion for doing so, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. . . .

**Conspicuously missing from this record is any evidence, other than the PTO's speculation (if it be called evidence) that one of ordinary skill . . . would have been motivated to make the modifications . . . necessary to arrive at the claimed [invention].**

In re Jones, 21 U.S.P.Q.2d at 1943, 1944 (citations omitted; italics in original).

That is exactly the case here since it is believed and respectfully submitted that the present Office Action offers no evidence whatsoever, but only conclusory hindsight, reconstruction and speculation, which these cases have indicated does not constitute evidence that will support a proper obviousness finding. Unsupported assertions are not evidence as to why a person having ordinary skill in the art would be motivated to modify the reference to provide the claimed subject matter of the claims to address the problems met thereby. Accordingly, the Office must provide proper evidence of a motivation for modifying the reference to provide the claimed subject matter.

More recently, the Federal Circuit in the case of In re Kotzab has made plain that even if a claim concerns a "technologically simple concept" -- which is not the case here -- there still must be some finding as to the "specific understanding or principle within the knowledge of a skilled artisan" that would motivate a person having no knowledge of the claimed subject matter to "make the combination in the manner claimed," stating that:

In this case, the Examiner and the Board fell into the hindsight trap. The idea of a single sensor controlling multiple valves, as opposed to multiple sensors controlling multiple valves, is a technologically simple concept. With this simple concept in mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed limitation. But, there was no finding as to the specific

understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed. In light of our holding of the absence of a motivation to combine the teachings in Evans, we conclude that the Board did not make out a proper prima facie case of obviousness in rejecting [the] claims . . . under 35 U.S.C. Section 103(a) over Evans.

In re Kotzab, 55 U.S.P.Q.2d 1313, 1318 (Fed. Cir. 2000) (emphasis added). Again, it is believed that there have been no such findings.

In summary, it is respectfully submitted that Flamm et al. do not render obvious claims 19 and 24.

Claims 20 to 22 depend from claim 19 and therefore include all of the limitations of claim 19. Claims 25 to 27 depend from claim 24 and therefore include all of the limitations of claim 24. Applicants respectfully submit that dependent claims 20 to 22 and 25 to 27 are patentable for at least the reasons given above in support of the patentability of claims 19 and 24. In re Fine, *supra* (any dependent claim that depends from a non-obvious independent claim is non-obvious).

#### **VI. Rejection of Claims 23 and 28 to 36 Under 35 U.S.C. § 103(a)**

Claims 23 and 28 to 36 were rejected under 35 U.S.C. § 103(a) as unpatentable over Flamm et al. and further in view of U.S. Patent 5,047,115 ("Charlet et al."). Applicants respectfully submit that the combination of Flamm et al. and Charlet et al. does not render obvious the present claims for the following reasons.

The Office Action contends that Charlet et al. discloses "that helium or argon . . . may be used in the process of etching silicon substrate so as to ensure the stability of the discharge and its extension to the substrate." Office Action at p. 5. The Office Action contends that "it would have been obvious to one with ordinary skill in the art to incorporate helium or argon as taught by Charlet in order to ensure the stability of the discharge and its extension to the substrate." Office Action at pp. 5 to 6.

Claim 23 depends from claim 19 and therefore includes all of the limitations of claim 19, and claim 28 depends from claim 24 and therefore includes all of the limitations of claim 24. Charlet et al. do not disclose, or even suggest,

precipitating at least one passivating material at least on a side wall, and therefore Charlet et al. do not cure the critical deficiencies of Flamm et al. with reference to claims 19 and 24. Therefore, the combination of Flamm et al. and Charlet et al. does not disclose, or even suggest, all of the limitations of claims 23 and 28. It is therefore respectfully submitted that the combination of Flamm et al. and Charlet et al. does not render obvious claims 23 and 28.

Claim 29 relates to a method of anisotropic plasma etching a laterally defined structure in a silicon substrate using a process gas. Claim 29, as amended herein, recites that the method includes precipitating a passivating material on at least one side wall of the laterally defined structure at least one of prior to the anisotropic plasma etching and during the anisotropic plasma etching, and adding at least one of  $H_2$ , He and Ne to the process gas.

Claim 34 relates to a method of anisotropic plasma etching a laterally defined structure in a silicon substrate using a process gas. Claim 34, as amended herein, recites that the method includes precipitating at least one passivating material on at least a side wall of the laterally defined structure at least one of prior to the anisotropic plasma etching and during the anisotropic plasma etching, adding at least one fluorine-delivering etching gas to the process gas, the at least one fluorine-delivering etching gas including at least one compound selected from the group consisting of  $ClF_3$ ,  $BrF_3$  and  $IF_5$ , adding  $NF_3$  to the process gas as an additive for consuming the at least one passivating material, and adding at least one of  $H_2$ , He, and Ne to the process gas.

As indicated above, each of claims 29 and 34 includes the step of precipitating at least one passivating material at least on a side wall of the laterally defined structure. As indicated above, the combination of Flamm et al. and Charlet et al. does not disclose, or even suggest, precipitating at least one passivating material at least on a side wall of the laterally defined structure. It is therefore respectfully submitted that the combination of Flamm et al. and Charlet et al. does not render obvious claims 29 and 34.

Claims 30 to 33 depend from claim 29 and therefore include all of the limitations of claim 29. Claims 35 and 36 depend from claim 34 and therefore include all of the limitations of claim 34. Applicants respectfully submit that the combination of Flamm et al. and Charlet et al. does not render obvious these dependent claims for at least the same reasons given above in support of the



patentability of claims 29 and 34. In re Fine, supra (any dependent claim that depends from a non-obvious independent claim is non-obvious).

**VII. Conclusion**

Attached hereto is a marked-up version of the changes made to the Specification and claims by the current Amendment. The attached pages are captioned "**Version with Markings to Show Changes Made.**"

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed and an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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**IN THE SPECIFICATION:**

The paragraph beginning on page 3, line 32 has been amended as follows:

NF<sub>3</sub>, an additive used from time to time in the process gas to consume the passivating material, in particular SiO<sub>2</sub> or a teflon-type material, has the advantage over additives based on fluorocarbon compounds known from the related art that considerably stronger stripping of the dielectric layers masking the structure base is achieved, so that it has to be used in considerably smaller amounts in the respective plasma etching process compared to the known additives, with the result that the overall process is less subject to negative effects, in particular dilution of the other active reagents, which otherwise necessarily occurs. The additive may also include a fluoroalkane.

**IN THE CLAIMS:**

Claims 19 to 36 have been amended, without prejudice, as follows:

19. (Amended) A method of anisotropic plasma etching a laterally defined structure in a silicon substrate using a process gas, the method comprising the steps of:

precipitating at least one passivating material at least on a side wall of the laterally defined structure [at least from time to time] at least one of prior to the anisotropic plasma etching and during the anisotropic plasma etching; and

adding a fluorine-delivering etching gas at least from time to time to the process gas, the fluorine-delivering etching gas including at least a compound selected from the group consisting of ClF<sub>3</sub>, BrF<sub>3</sub> and IF<sub>5</sub>.

20. (Amended) The method of claim 19, further comprising the step of adding at least one gas selected from the group consisting of SiF<sub>4</sub>, C<sub>4</sub>F<sub>5</sub>, C<sub>3</sub>F<sub>6</sub>, C<sub>4</sub>F<sub>10</sub>, C<sub>3</sub>F<sub>8</sub> and C<sub>2</sub>F<sub>6</sub> to the process gas [at least from time to time] as a gas forming the at least one passivating material.

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21. (Amended) The method of claim 19, further comprising the step of adding at least one gas selected from the group consisting of O<sub>2</sub>, N<sub>2</sub>O, NO, NO<sub>x</sub>, CO<sub>2</sub>, Ar, NO<sub>2</sub> and N<sub>2</sub> to the process gas [at least from time to time].

22. (Amended) The method of claim 19, further comprising the step of adding at least one of an additive, a [fluoroalkane] fluoroalkane and NF<sub>3</sub> for consuming the at least one passivating material to the process gas [at least from time to time], the at least one passivating material including one of SiO<sub>2</sub> and a fluoropolymer [teflon-type] material, and the at least one additive including at least one of CHF<sub>3</sub>, CF<sub>4</sub>, C<sub>2</sub>F<sub>6</sub>, C<sub>3</sub>F<sub>8</sub>, C<sub>4</sub>F<sub>8</sub>, C<sub>4</sub>F<sub>10</sub> and C<sub>3</sub>F<sub>8</sub>.

23. (Amended) The method of claim 19, further comprising the step of adding at least one of [a light and easily ionizable gas,] H<sub>2</sub>, He and Ne to the process gas [at least from time to time].

24. (Amended) A method of anisotropic plasma etching a laterally defined structure in a silicon substrate using a process gas, the method comprising the steps of:

precipitating at least one passivating material at least on a side wall of the laterally defined structure [at least from time to time] at least one of prior to the anisotropic plasma etching and during the anisotropic plasma etching; and

adding NF<sub>3</sub> to the process gas [at least from time to time] as an additive for consuming at least one of the at least one passivating material, SiO<sub>2</sub> and a [teflon-type] fluoropolymer material.

25. (Amended) The method of claim 24, further comprising the step of adding a fluorine-delivering etching gas to the process gas [at least from time to time], the fluorine-delivering etching gas including at least one compound selected from the group consisting of SF<sub>6</sub>, ClF<sub>3</sub>, BrF<sub>3</sub> and IF<sub>5</sub>.

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26. (Amended) The method of claim 24, further comprising the step of adding at least one gas selected from the group consisting of  $\text{SiF}_4$ ,  $\text{C}_4\text{F}_8$ ,  $\text{C}_3\text{F}_6$ ,  $\text{C}_4\text{F}_{10}$ ,  $\text{C}_3\text{F}_8$  and  $\text{C}_2\text{F}_6$  to the process gas [at least from time to time] as a gas forming the at least one passivating material.

27. (Amended) The method of claim 24, further comprising the step of adding at least one gas selected from the group consisting of  $\text{O}_2$ ,  $\text{N}_2\text{O}$ ,  $\text{NO}$ ,  $\text{NO}_x$ ,  $\text{CO}_2$ ,  $\text{Ar}$ ,  $\text{NO}_2$  and  $\text{N}_2$  to the process gas [at least from time to time].

28. (Amended) The method of claim 24, further comprising the step of adding at least one of [a light and easily ionizable gas,]  $\text{H}_2$ ,  $\text{He}$  and  $\text{Ne}$  to the process gas [at least from time to time].

29. (Amended) A method of anisotropic plasma etching a laterally defined structure in a silicon substrate using a process gas, the method comprising the steps of:

precipitating a passivating material on at least one side wall of the laterally defined structure [at least from time to time] at least one of prior to the anisotropic plasma etching and during the anisotropic plasma etching; and

adding at least one of [a light and easily ionizable gas,]  $\text{H}_2$ ,  $\text{He}$  and  $\text{Ne}$  to the process gas [at least from time to time].

30. (Amended) The method of claim 29, further comprising the step of adding at least one fluorine-delivering etching gas to the process gas [at least from time to time], the fluorine-delivering etching gas including at least one of a compound selected from the group consisting of  $\text{SF}_6$ ,  $\text{ClF}_3$ ,  $\text{BrF}_3$  and  $\text{IF}_5$ .

31. (Amended) The method of claim 29, further comprising the step of adding at least one gas selected from the group consisting of  $\text{SiF}_4$ ,  $\text{C}_4\text{F}_8$ ,  $\text{C}_3\text{F}_6$ ,  $\text{C}_4\text{F}_{10}$ ,  $\text{C}_3\text{F}_8$  and  $\text{C}_2\text{F}_6$  to the process gas [at least from time to time] as a gas forming the at least one passivating material.

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32. (Amended) The method of claim 29, further comprising the step of adding at least one gas selected from the group consisting of O<sub>2</sub>, N<sub>2</sub>O, NO, NO<sub>x</sub>, CO<sub>2</sub>, Ar, NO<sub>2</sub> and N<sub>2</sub> to the process gas [at least from time to time].

33. (Amended) The method of claim 29, further comprising the step of adding at least one of an additive, a [fluoroalkane] fluoroalkane and NF<sub>3</sub> to the process gas [at least from time to time] for consuming at least one of the at least one passivating material, SiO<sub>2</sub> and a [teflon-type] fluoropolymer material, the additive including one of CHF<sub>3</sub>, CF<sub>4</sub>, C<sub>2</sub>F<sub>6</sub>, C<sub>3</sub>F<sub>8</sub>, C<sub>4</sub>F<sub>8</sub>, C<sub>4</sub>F<sub>10</sub> and C<sub>3</sub>F<sub>8</sub>.

34. (Amended) A method of anisotropic plasma etching a laterally defined structure in a silicon substrate using a process gas, the method comprising the steps of:

precipitating at least one passivating material on at least a side wall of the laterally defined structure [at least from time to time] at least one of prior to the anisotropic plasma etching and during the anisotropic plasma etching;

adding at least one fluorine-delivering etching gas to the process gas [at least from time to time], the at least one fluorine-delivering etching gas including at least one compound selected from the group consisting of ClF<sub>3</sub>, BrF<sub>3</sub> and IF<sub>5</sub>;

adding NF<sub>3</sub> to the process gas [at least from time to time] as an additive for consuming the at least one passivating material; and

adding at least one of [a light and easily ionizable gas,] H<sub>2</sub>, He, and Ne to the process gas [at least from time to time].

35. (Amended) The method of claim 34, further comprising the step of adding at least one gas selected from the group consisting of SiF<sub>4</sub>, C<sub>4</sub>F<sub>8</sub>, C<sub>3</sub>F<sub>8</sub>, C<sub>4</sub>F<sub>10</sub>, C<sub>3</sub>F<sub>8</sub> and C<sub>2</sub>F<sub>6</sub> to the process gas [at least from time to time] as the gas forming the at least one passivating material.

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36. (Amended) The method of claim 34, further comprising the step of adding at least one gas selected from the group consisting of  $O_2$ ,  $N_2O$ ,  $NO$ ,  $NO_x$ ,  $CO_2$ ,  $Ar$ ,  $NO_2$  and  $N_2$  to the process gas [at least from time to time].